SEVENTY-EIGHTH MEETING

OF

The Electrochemical Society, Inc.

OTTAWA, CANADA

October 2, 3, 4, 5, 1940

LOCAL COMMITTEE

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Frank E. Lathe

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A. A. Swinnerton, Chairman, Registration and Equipment Committee.

R. J. Traill, Chairman, Plant Visits and Transportation Committee.

P. Larose, Chairman, Committee in charge of Luncheons and Dinners.

G. D. Mallory, Chairman, Dance Committee.

Mrs. F. E. Lathe, Chairman, Ladies Committee.

L. M. Pidgeon, Chairman, Committee in charge of Arrangements at Seigniory Club.

Seventy-eighth Meeting

GENERAL INFORMATION

Hotel Information

Headquarters and Registration Desk will be at the Chateau Laurier, Lounge Room No. 1, adjoining the Convention Hall. During the past few months Ottawa has been a much frequented city. The Chateau Laurier has reserved for members of our Society a limited number of rooms and it is strongly recommended that all members contemplating attending the Meeting write at once for reservations. **There will be no difficulty in crossing and recrossing the border.** See back of Program Booklet for details. The rates (in Canadian Dollars) at the Chateau Laurier are: Single room without bath, $3.00 per day; Double room without bath, double bed $4.50 per day; Single room with bath $4.00

and $5.00 per day; Double room with bath, double bed $6.00 per day; Double room with bath, twin beds $7.00 per day; Double room with bath, 3 beds $9.00 per day. For other hotel see last page of this program.

Registration will begin at 8:00 p.m. in the Chateau Laurier, Lounge Room No. 1, Wednesday, October 2nd. The registrar will receive arriving members and guests, distribute badges and programs, and give detailed information.

Guests should be introduced by members and when registered they may attend the sessions and receive such other courtesies as may be extended to them by the Local Committee or by the Officers of the Society. Local members of the Ottawa Branch of the Canadian Institute of Chemistry and the Ottawa Section of the Society of Chemical Industry are invited to register as guests without introduction.

The registration fee is $1.00 per member or guest registering. This fee applies to the ladies as well. Everyone expecting to attend the scientific-technical sessions must register.

Places of Meetings

The scientific and technical sessions will be held in the Convention Hall on the Main Floor of the Chateau Laurier. The luncheons on Thursday, Friday, and Saturday will be held in the Banquet Room. The Annual Dinner-Dance which will be held on Friday evening at 7:00 p.m., will be held in the Ball Room of the Chateau Laurier.

Thursday Afternoon

Members and guests will leave for a visit to the Seigniory Club immediately after luncheon on Thursday afternoon. The Club is 45 miles east of Ottawa and embraces a hundred odd square miles of heavily wooded Laurentian Mountain countryside. It fronts on the Ottawa River at the little French Canadian village of Montebello.

The Seigniory Club is an international year-round sports and country club community. Its six tennis courts are situated in a sheltered space between the Log Chateau and the Manor House and

are annually the scene of tournament and exhibition games in which players famous in American and Canadian tennis participate. Tennis enthusiasts will enjoy a game on these splendid courts. The Sports Club House overlooking the 18th green of the golf course is a cheery rendezvous. The links, with eighteen interesting holes over rolling terrain and a succession of natural hazards and scenic effects, are one of the most enjoyable on the continent. Men's par 71, Ladies' par 77. Come and try your luck. Greens fee $1.50. Last, but not least, the Club offers a swimming pool which occupies a separate log building. The pool measures 75 by 40 feet and is equipped with board and tower. The water is purified, treated with ultra-violet rays, heated and comes from a mountain lake. Bring your bathing suit!

Members and guests will have dinner at the Seigniory Club at 6:30 (business dress) and return to the Chateau Laurier later in the evening. Dinner $1.65.

Friday Afternoon

The Canadian Government has consented to our members and guests visiting the National Research Council and the Bureau of Mines on Friday afternoon.

The main building of the National Research Laboratories, established by the Dominion Government, was opened in 1932. There are in addition aeronautical and mechanical engineering laboratories in other buildings and new aeronautical laboratories are under construction. These laboratories are operated by the National Research Council, an organization which, in a general way, has the combined functions of the United States Bureau of Standards, the National Research Council of the United States and the Mellon Institute of Pittsburgh. Work is carried on under the Divisions of Biology, Chemistry, Mechanical Engineering and Physics and Electrical Engineering.

Friday (Continued)

Members and guests will also be given an opportunity to visit the modern E. B. Eddy Co. Pulp and Paper Plant.

The ladies will visit the Parliament Buildings and the National Museum and Art Gallery on Friday afternoon.

Friday Evening

At 7:00 p.m. the Annual Dinner and Dance will be in the Ball Room of the Chateau Laurier. (Dress optional.) Fee $2.50 per person. Immediately after dinner Mr. Robert A. Witherspoon, Past-President of the Society will be presented with a certificate of Honorary Membership in the Electrochemical Society by President Frank C. Mathers.

Saturday Afternoon

On Saturday afternoon immediately after luncheon Dr. Marcel Leon Pochon will address the members and guests on **New Sources of Radium.** The talk will be illustrated with motion picture film.

Dr. Pochon was born in Versailles and educated in Paris at the Paris High School and School of Industrial Physics and Chemistry. He has held responsible positions in Germany, France and England. Since 1932 Dr. Pochon has been Head Chemist at the Port Hope Radium Refinery, Eldorado Gold Mines, Limited, in Canada.

The Canadian Institute of Mining and Metallurgy awarded the 1940 Randolph Bruce Medal to Dr. Pochon for perfecting the process at the Port Hope Radium Refinery so that high recovery of both uranium and radium is a matter of routine irrespective of considerable variations in the types of ore forwarded from Eldorado's Great Bear pitchblende deposits.

Admission to Sessions and Social Functions

Tickets must be obtained at the Registration Desk for all scheduled meals and other functions. The Society badge, received upon registration is absolutely essential for admission to the technical and scientific sessions.

Cost of Functions

	Ladies	Men
Registration	$1.00	$1.00
Thursday Luncheon	1.00	1.00
Thursday Dinner (Seigniory Club)	1.65	1.65
Friday Luncheon	1.00	1.00
Friday Dinner-Dance	2.50	2.50
Saturday Luncheon	1.00	1.00
Total	$8.15	$8.15

There is an official premium of 10 per cent on American money in Canada. No American money will be accepted at the Registration Desk. Please have your money changed at the Hotel Desk. Thank you.

Extra tickets for the dinner-dance, luncheons and other social features may be obtained at the Registration Desk.

Acknowledgment

The Board of Directors of the Electrochemical Society gratefully acknowledges the kind cooperation and generous assistance of the friends of the Society in Ottawa who have been largely responsible for this interesting and enjoyable program.

LADIES' PROGRAM

Wednesday, October 2, 1940

8:00-9:00 p.m. Registration, Lounge Room No. 1 adjoining the Convention Hall, Hotel Chateau Laurier. ($1.00)

Thursday, October 3, 1940

9:00 a.m. This morning has been left open for the ladies to do as they wish.

12:00 noon. Luncheon with the men at the Chateau Laurier in the Banquet Room. ($1.00)

1:15 p.m. Leave by bus or private car for the Seigniory Club. (45 miles)

2:30-6:00 p.m. Golf ($1.50), Tennis or Swimming or Hiking.

6:30 p.m. Dinner at the Seigniory Club. (Street dress) ($1.65).

9:00 p.m. Leave for Hotel Chateau Laurier.

Friday, October 4, 1940

10:00 a.m. This morning the ladies will be taken for a drive around the city to see the points of interest.

12:30 noon. Luncheon with the men at the Chateau Laurier ($1.00) or at one of the tea-rooms in the City.

2:15 p.m. Visit to the Parliament Buildings and the National Museum and Art Gallery.

7:00 p.m. Annual Dinner and Dance in the Ball Room. ($2.50) Dress optional.

Saturday, October 5, 1940

9:00 a.m. This morning has been left open for the ladies to do as they wish.

12:30 noon. Luncheon with the men at the Chateau Laurier in the Banquet Room. ($1.00) Dr. M. L. Pochon will address members and guests on "New Sources of Radium".

2:00 p.m. Adjournment.

Note to Authors of Papers

In the presentation of your paper, please state briefly: (1) the purpose of your investigation; (2) the method pursued; (3) the important results obtained; and (4) your conclusions based on your findings. A blackboard and a projection lantern will be provided. Slides are always welcomed by the audience. Curves are always more convincing than tabulations. Samples of new products should be relatively small so as to facilitate passing them among the audience.

The Ottawa Volume

The inclusion of the title of a paper in this program does not necessarily imply publication of that paper in the "Ottawa Volume" of the Electrochemical Society's Transactions.

Typewritten Discussion

Members wishing to present written discussion on any of the papers listed in this program will please submit three copies of each to Dr. Colin G. Fink, Secretary of the Society, whose office is at Columbia University, New York City.

DETAILED PROGRAM

Wednesday, October 2, 1940

8:00-9:00 p.m. Registration, Lounge Room No. 1 adjoining the Convention Hall, Hotel Chateau Laurier. ($1.00)

NOTE: Local members and guests are requested to register as early as possible.

8:30 p.m. Meeting of the Board of Directors, Terrace Room on the Main Floor of the Chateau Laurier.

Thursday, October 3, 1940

8:00 a.m. Group Breakfasts.

8:00 a.m. Registration continued, Lounge Room No. 1, adjoining the Convention Hall, Hotel Chateau Laurier. ($1.00)

9:00 a.m. Scientific-Technical Session on **"Electronics and Electrothermics"**, John W. Marden, Westinghouse Lamp Co., Bloomfield, N.

J., presiding. Convention Hall, Main Floor, Hotel Chateau Laurier.

(26) "An Electrometer Tube for Laboratory and Industrial Use", by L. Sutherlin and R. H. Cherry, Res. Dept., Westinghouse Lamp Div., Bloomfield, N. J., Res. Dept., Leeds & Northrup Co., Philadelphia, Pa., respectively.

(27) "The Sterilamp. Its Electrical and Radiation Characteristics", by D. D. Knowles and E. Reuter, Special Products Eng. Dept., Westinghouse Lamp Div., Bloomfield, N. J.

(11) "The Production ~~of Cold Mal-~~ of DUCTILE TITANIUM leable Titanium", by W. Kroll, Red Coach Inn, Niagara Falls, N. Y.

(21) "Electrochemical Potential Differences at the Boundary. Copper-Insulating Liquids", by A. Gemant, Res. Lab., Detroit Edison Co., Detroit, Mich.

Thursday (Continued)

(9) "Electrochemical Methods in Microchemistry", by E. B. Ashcraft, Res. Eng., Westinghouse Research Laboratories, East Pittsburgh, Pa.

(17) "The Deposition Potentials of Metals from Fused Alkali Chloride-Aluminum Chloride Baths", W. H. Wade, G. O. Twellmeyer, S. J., and L. F. Yntema, J. B. Ford Co., Wyandotte, Mich., Dept. of Chemistry, St. Louis Univ., St. Louis, Mo., respectively.

(20) "The Production of Anhydrous Magnesium Chloride", by L. M. Pidgeon and N. W. F. Phillips, National Research Laboratories, Ottawa, Canada.

(5) "Phase Segregation and Its Relation to the Properties of the System Palladium-Hydrogen", by D. P. Smith, Frick Chemical Laboratory, Princeton, N. J.

12:00 noon. Luncheon in the Banquet Room, Chateau Laurier. ($1.00)

1:15 p.m. Leave for Seigniory Club by car or bus. (45 miles)

2:30-6:00 p.m. Golf ($1.50) or Tennis or Swimming or Hiking.

6:30 p.m. Dinner at the Seigniory Club. (Business dress) ($1.65).

9:00 p.m. Leave for Chateau Laurier.

Friday, October 4, 1940

8:00 a.m. Group Breakfasts.

8:00 a.m. Registration continued, Lounge Room No. 1, adjoining the Convention Hall, Hotel Chateau Laurier. ($1.00)

9:00 a.m. Scientific-Technical Session on **"Physical Chemistry and Batteries"**, James P. Fugassi, Carnegie Inst. of Technology, Pittsburgh, Pa., presiding. Convention Hall, Main Floor, Hotel Chateau Laurier.

Friday (Continued)

(18) "The Theory of the Potential and the Technical Practice of Electrodeposition. III. Linear Polarization on Some Line Plane Systems", by C. Kasper, Chemist, National Bureau of Standards, Washington, D. C.

(19) "The Theory of the Potential and the Technical Practice of Electrodeposition. IV. The Flow Between and to Circulary Cylinders", by C. Kasper, Chemist, National Bureau of Standards, Washington, D. C.

(23) "The Hydrogen Anode", by M. de K. Thompson and H. V. Fairbanks, Massachusetts Inst. of Technology, Cambridge, Mass.

(16) "Metallized Glass Oxygen Electrodes", by H. G. Bain, 36 Sidney St., Saltcoats, Aryshire, Scotland.

(22) "Amperometric Titrations", by I. M. Kolthoff, School of Chemistry, Inst. of Tech., Univ. of Minnesota, Minneapolis, Minn.

(10) "A Study of the Kinetics of the Reactions in the Zinc-Hydrogen Irreversible Cell", by H. V. Tartar and J. I. Jolley, Dept. of Chem. & Chem. Eng., Univ. of Washington, Seattle, Wash., and Dept. of Chem. & Chem. Eng., Univ. of Idaho, Moscow, Idaho, respectively.

(8) "Micro-Porous Plates as Diaphragms in Storage Batteries", by A. P. Hauel, 118 East Main St., Lancaster, N. Y.

(24) "The Reaction Between Iron and Water in the Absence of Oxygen", by M. de K. Thompson, Mass. Inst. of Technology, Cambridge, Mass.

(4) "The Hydrogen and Oxygen Overvoltages of Chromium Nickel Alloys in 1 Molal Potassium Hydrate", by M. de K. Thompson and G. H. Sistare, Jr., Mass. Inst. of Technology, Cambridge, Mass.

Friday (Continued)

(25) "The Electrolytic Polishing of Stainless Steels", by H. H. Uhlig, Dept. of Chem. Eng., Mass. Inst. of Technology, Cambridge, Mass.

12:30 noon. Luncheon in Banquet Room, Chateau Laurier. ($1.00)

2:15 p.m. Visit to National Research Council and Bureau of Mines Laboratories, and E. B. Eddy Co. Pulp and Paper Plant.

7:00 p.m. Annual Dinner and Dance in the Ball Room. (Dress optional — Charge $2.50 per person). Presentation of Honorary Membership Certificate of the Electrochemical Society to Mr. Robert Allen Witherspoon by President Frank C. Mathers.

Saturday, October 5, 1940

8:00 a.m. Group Breakfasts.

8:00 a.m. Registration continued, Lounge Room No. 1, adjoining the Convention Hall, Hotel Chateau Laurier. ($1.00)

9:00 a.m. Scientific-Technical Session on **"Electrodeposition of Various Metals"**, Richard O. Hull, E. I. du Pont de Nemours & Co., Grasselli Chemicals Dept., Cleveland, Ohio, presiding. Convention Hall, Main Floor, Hotel Chateau Laurier.

(1) "Electrolyte Films in Acid Copper Plating Baths", A. K. Graham and H. J. Read, Jenkintown, Pa., and Harrison Lab. of Chemistry, Philadelphia, Pa., respectively.

(13) "Electrodeposition of Bright Copper", by L. Greenspan, 1115 Jerome Ave., New York City.

Saturday (Continued)

(15) "Addition Agents in the Electrodeposition of Zinc", by J. L. Bray and F. R. Morral, Purdue University, Lafayette, Ind., and Continental Steel Corp., Kokomo, Ind., respectively.

(2) "The Electrogalvanizing of Wire", by E. H. Lyons, Jr., The Meaker Co., 1629 So. 55th Ave., Chicago, Ill.

(6) "Effect of Glycerine on the Throwing Power of Plating Baths",-by F. C. Mathers and W. J. Guest, Dept. of Chemistry, Indiana Univ., Bloomington, Ind., and Asst. in Kentucky State Employment Service, Louisville, Ky., respectively.

(12) "Glycerine Foots as Addition Agent in Cadmium Cyanide Baths", by F. C. Mathers and W. J. Guest, Dept. of Chemistry, Indiana Univ., Bloomington, Ind., and Asst. in Kentucky State Employment Service, Louisville, Ky., respectively.

(14) "The Electrodeposition of Indium from Sulfate Baths", by Colin G. Fink and R. H. Lester, Div. of Electrochemistry, Columbia Univ., New York City and Mellon Institute, Pittsburgh, Pa., respectively.

(3) "An Electrolytic Chromium-Thickness Tester", by S. Anderson and R. W. Manuel, Crane Company, Chicago, Ill.

(7) "Electrodeposition of Alloys 1930-1940", by C. L. Faust, Battelle Memorial Inst., Columbus, Ohio.

12:30 noon. Luncheon in Banquet Room, Chateau Laurier. ($1.00) Luncheon talk on "New Sources of Radium", by Dr. Marcel L. Pochon, Eldorado Gold Mines, Ltd., Port Hope, Canada. The talk will be illustrated with motion picture film.

2:00 p.m. Adjournment.

Canadian Travel

American citizens do not require passports either to leave or to re-enter the United States. It is advisable, however, for them to be possessed of such personal papers and other documents as may be helpful to immigration officers in establishing their right to re-enter as American citizens.

Women born outside of the United States are citizens of the United States if married to a citizen prior to September 22, 1922, or whose spouse was naturalized a citizen of the United States before that date. Divorce does not terminate the citizenship of women deriving citizenship in this manner.

Persons not citizens of the United States, entering or re-entering the United States must be in possession of one of the following documents:

1. Passport from the country of which they are a national, with an appropriate visa from an American Counsul.

2. Re-entry permit issued by the Immigration and Naturalization Service Form 631 to be used in applying therefor. (Re-entry permit is valid only for a single re-entry.)

Consular Immigration Visa cards issued at time of entry (on and after July 1, 1928) or Registry cards issued under the Act of March 2, 1929, as amended, or Declaration issued since July 1, 1929, will **not** be valid as proof of legal admission, when applying for an identification card.

NOTES

NOTES

HOTEL LOCATED NEAR HEAD-QUARTERS

(Chateau Laurier)

Per Day

Hotel Windsor (European Plan) .....$2.00 up

100 rooms—25 baths

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